

Teratospermopsis* gen. nov. for *Chaetendophragmia protuberata*, with a taxonomic review of *Teratosperma

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ABSTRACT—*Teratospermopsis* is proposed as a new genus for *Chaetendophragmia protuberata* [= *Teratosperma microsporum*]. The genus has acrogenous, solitary, euseptate conidia seceding schizolytically from monoblastic, integrated, terminal, annellidic conidiogenous cells. The conidia are obclavate, smooth, and with an apical cell with a filiform appendage and a basal cell with a lateral appendage. A key and a synoptic table to six accepted *Teratosperma* species accompany comments on four rejected or dubious species, including *T. macrosporum* [= *Endophragmiella macrospora* comb. nov.].

KEY WORDS—asexual *Ascomycota*, hyphomycetes, saprobes, taxonomy

Introduction

Teratosperma Syd. & P. Syd. was erected by Sydow & Sydow (1909) with *T. singulare* as the type species, and was mainly characterized by solitary, holoblastic conidia seceding rhexolytically from annellidic conidiogenous cells. The conidia bear lateral appendages which arise from the basal (or occasionally suprabasal) cell (Sydow & Sydow 1909; Ellis 1957, 1971; Wu & Zhuang 2005). Ellis (1957), who examined the type collection of *T. singulare*, monographed

TABLE 1 Synopsis of accepted species of *Tetatosperma*

SPECIES	CONIDIOPHORES				CONIDIA		
	(µm)	Size (µm)	SEPTATION	BASAL WIDTH (µm)	APPENDAGE NUMBER/size (µm)	SYNANAMORPH	
<i>T. anacardii</i> ¹	25-100 × 3-5	17-30 × 4.5-7	2-3	1.5-3	1-3/ 2-18 × 2-3	<i>Selenosporella</i> -like	
<i>T. appendiculatum</i> ¹	20-90 × 3.5-5	17-50 × 7-9	(1-)(3)(-4)	3.5-4.5	1/ 4-6 × 4.5-5.5	Unknown	
<i>T. cornigerum</i> ¹	55-106 × 6-11	70-200 × 14-17	4-12	7-10	1-3/ 10-50 × 2-4	<i>Selenosporella</i> -like	
<i>T. dicranopteridis</i> ²	53-230 × 5-13	26-35 × 7.5-9	3-5	4	1-3/ 16-26 × 5-6	Unknown	
<i>T. singulare</i> ¹	12-45 × 6-10	60-130 × 17-22	3-10	7-10	1-3/ ≤55 × 5-12	<i>Selenosporella</i> -like	
<i>T. uniaappendiculatum</i> ¹	18-57 × 5.7-7	120-210 × 10-14	6-9	6.2-7.3	1/ 18-40 × 5-7.5	<i>Verticilladatiella</i> -like	Data from ¹ Ellis 1957; ² Kirschner & al. 2019; ³ Matsushima 1975.

the genus with illustrations and redescriptions of five accepted species: *T. anacardii*, *T. appendiculatum*, *T. cornigerum*, *T. pulchrum*, and *T. singulare*. Hughes (1971) briefly noted the *Endophragmiella*-like proliferations after rhexolytic conidium secession in *T. singulare*, *T. cornigerum*, and *Sporidesmium subulatum*. Later, Hughes (1979) transferred *S. subulatum* and *S. sclerotivorum* (Uecker & al. 1978) to *Teratosperma*, treating *T. pulchrum* as a synonym of *T. cornigerum* and drawing attention to the occurrence of synanamorphs within the genus. Matsushima (1975, 1980) described *T. uniappendiculatum* from Japan and *T. litchii* from Taiwan. Five further species—*T. lichenicola*, *T. oligocladum*, *T. microsporum*, *T. macrosporum*, and *T. dicranopteridis*—were added by Hawksworth (1979), Uecker & al. (1980), Kirk (1985), Wu & Zhuang (2005), and Kirschner & al. (2019). However, *T. litchii*, transferred to *Solicorynespora* R.F. Castañeda & W.B. Kendr. by Castañeda-Ruiz & Kendrick (1990), was later transferred to *Morganjonesia* R.F. Castañeda & al. by Zhang & al. (2019) due to its monotretic conidial ontogeny and conidia with a hyaline, acute or subulate conidial appendage. Subramanian (1992) transferred *T. subulatum* to *Repetophragma* Subram. although its rhexolytic conidial secession differs from that of *Repetophragma* (Hughes 1979). Kirschner & al. (2019) excluded *T. oligocladum* from *Teratosperma* based on the absence of annellidic conidiogenous cells and its conidial appendages arising from suprabasal cells. Thus, eleven species have appeared under the genus *Teratosperma*, most of which are reported to have close associations with lichens, algae, or other fungi (Ellis 1957, Matsushima 1975, Hawksworth 1979, Hughes 1979, Uecker & al. 1980, Kirk 1985, Wu & Zhuang 2005).

It is evident a revision of *Teratosperma* is needed, as the genus has become heterogenous by including species with schizolytic conidial secession (Kirk 1985) as well as species producing conidia without appendages (Hawksworth 1979, Hughes 1979, Wu & Zhuang 2005). Following detailed study of the species and comparison with the type species, *T. singulare*, which has conidia with basal appendages, annellidic conidiogenous cells, and rhexolytic conidial secession, we now accept six species in *Teratosperma* (TABLE 1). We exclude *T. sclerotivorum* and *T. subulatum*, regard *Teratosperma lichenicola* as synonymous with *Endophragmiella corticola* (Kirk 1982), and transfer *Teratosperma macrosporum* to *Endophragmiella* B. Sutton (Sutton 1973) as a new combination.

Teratosperma microsporum produces conidia with schizolytic conidial secession and a lateral appendage arising from the basal cell, which does not agree with the generic concepts of either *Teratosperma* or *Chaetendophragmia* Matsush. (Matsushima 1971). Therefore we propose a

new genus, *Teratospermopsis*, typified by *Chaetendophragmia protuberata*, with *Teratosperma microsporum* as a heterotypic synonym.

Taxonomy

Teratospermopsis Jian Ma, X.G. Zhang & R.F. Castañeda, **gen. nov.**

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Differs from *Teratosperma* by its schizolytic conidial secession; and from *Chaetendophragmia* by its schizolytic conidial secession and its conidial basal cell with a lateral appendage.

TYPE SPECIES: *Chaetendophragmia protuberata* R.F. Castañeda [= *Teratospermopsis protuberata* (R.F. Castañeda) Jian Ma & al.]

ETYMOLOGY: “*Teratosperm-*” from the Latin *Teratosperma*, “*opsis*” = similar, referring to the similarity of the genus to *Teratosperma*.

CONIDIOPHORES macronematous, mononematous, single or in groups, simple, cylindrical, erect, straight or flexuous, smooth, septate, pale brown to dark brown, determinate or with percurrent proliferations. CONIDIOGENOUS CELLS monoblastic, integrated, terminal, cylindrical, smooth, pale brown to brown. Conidial secession schizolytic. CONIDIA acrogenous, solitary, appendiculate, obclavate or fusiform, sometimes rostrate, brown to dark brown, euseptate, with one or more lateral appendages arising from the basal cell.

Teratospermopsis protuberata (R.F. Castañeda) Jian Ma, X.G. Zhang & R.F. Castañeda, **comb. nov.**

FIG. 1

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= *Chaetendophragmia protuberata* R.F. Castañeda, Deuteromyc.
Cuba, Hyphomycetes 3: 7 (23 May 1985).

= *Teratosperma microsporum* P.M. Kirk, Mycotaxon 23: 345 (19 July 1985),
[as ‘*microspora*’].

COMMENTS—*Chaetendophragmia protuberata* and *Teratosperma microsporum* are proposed as synonyms, based on close examination of their descriptions and illustrations. Both names were proposed in 1985, but *C. protuberata* [accepted 30 April (Castañeda-Ruiz 1985: 1); published 23 May (Castañeda-Ruiz pers. comm.)] has priority over *T. microsporum* [published 19 July (Mycotaxon 24: inside front cover)].

Teratospermopsis protuberata is quite different from *Chaetendophragmia* and *Teratosperma* by its schizolytic conidial secession, and further from *Chaetendophragmia* which produces conidia with lateral appendages arising from the middle cells. The species shares a similar conidial ontogeny with *Repetophragma* (Subramanian 1992) but differs by producing conidia with a

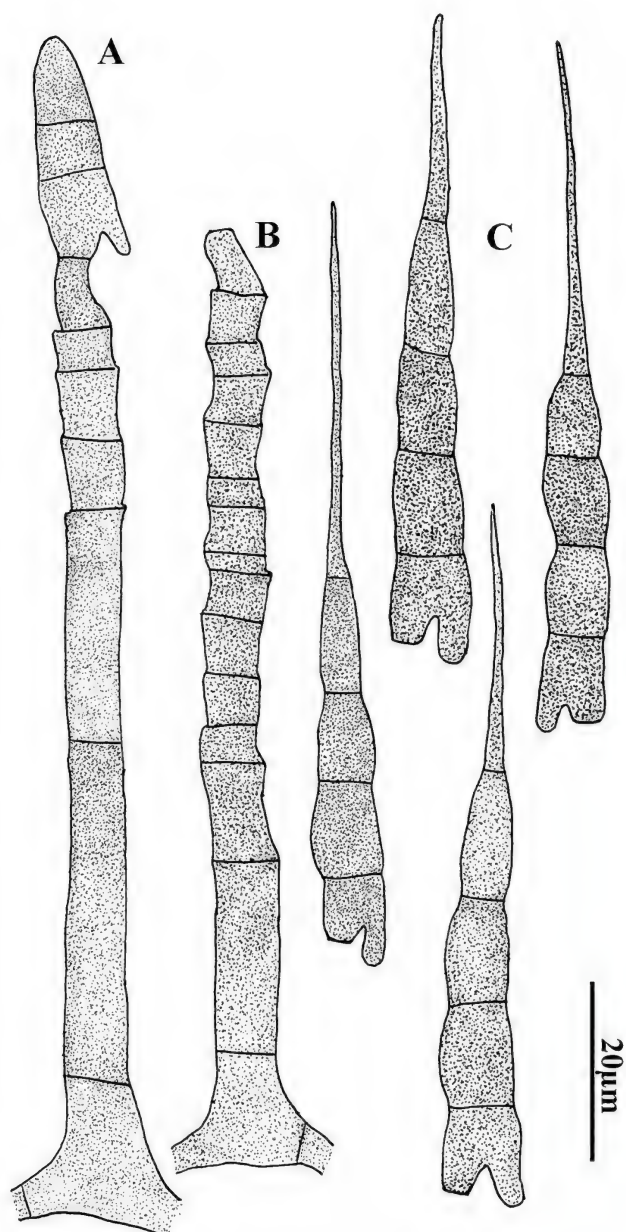


FIG. 1. *Teratospermopsis protuberata* (holotype, INIFAT C85/77-3).

A. Conidiophore, conidiogenous cell, and conidium;

B. Conidiophore, and conidiogenous cell; C. Conidia.

lateral appendage arising from the basal cell. As its morphology prohibits this fungus from inclusion in any previously described hyphomycete genus, we erect a new genus, *Teratospermopsis*, to accommodate it.

Currently accepted *Teratosperma* species

Teratosperma anacardii Hansf., Proc. Linn. Soc. London 155: 54 (1943).

≡ *Podoconis anacardii* (Hansf.) S. Hughes, Mycol. Pap. 48: 65 (1952).

COMMENTS—Hansford (1943) assigned this fungus to *Teratosperma*, but Hughes (1952) transferred it to *Podoconis* Boedijn due to conidial development and morphological characters. Hughes (1952) pointed out that a *Selenosporella*-like synanamorph occurs on conidia of this species, or on independent conidiophores. Ellis (1957) examined the type and other specimens of this species and still accepted it in *Teratosperma* by virtue of annellidic conidiogenous cells that produce phragmoconidia with 1–3 lateral appendages from the basal cell. Ellis (1958) synonymised *Podoconis* under *Sporidesmium* Link, but *P. anacardii* differs from *Sporidesmium* by its annellidic conidiogenous cells that produce conidia with basal appendages, and rhizolytic conidial secession. Following Ellis (1957), the basionym *Teratosperma anacardii* has been accepted by Hawksworth (1979) and Kirschner & al. (2019) and is considered the appropriate name. This species has been reported from Ghana, New Guinea, Nigeria, Sierra Leone, Uganda, and Tanzania (Ellis 1957, Hawksworth 1979).

Teratosperma appendiculatum (S. Hughes) M.B. Ellis,
Mycol. Pap. 69: 6 (1957).

≡ *Annellophora appendiculata* S. Hughes, Trans. Br.
Mycol. Soc. 34(4): 548 (1952 ["1951"]).

COMMENTS—This species was originally assigned to *Annellophora* S. Hughes, and subsequently transferred to *Teratosperma* by Ellis (1957) based on its phragmoconidia with a single lateral appendage arising from the basal cell. A *Selenosporella*-like synanamorph has not been recorded for this species. *Teratosperma appendiculatum* is morphologically most similar to *T. anacardii*, but differs mainly in conidial size, basal scar width, and size and number of appendages. This species has been recorded from Brazil, Ghana, and USA (Ellis 1957, Sutton & Hodges 1977).

Teratosperma cornigerum (Ellis & Everh.) M.B. Ellis, Mycol. Pap. 69: 5 (1957).

≡ *Clasterosporium cornigerum* Ellis & Everh., Proc. Acad. Nat. Sci. Philad. 43: 91 (1891).

= *Clasterosporium pulchrum* Ellis & Everh., Proc. Acad. Nat. Sci. Philad. 45: 169 (1893).

≡ *Teratosperma pulchrum* (Ellis & Everh.) M.B. Ellis, Mycol. Pap. 69: 4 (1957).

COMMENTS—Ellis (1957) examined the type specimens of *Clasterosporium cornigerum* and *C. pulchrum*, and transferred them both into *Teratosperma* based on their annellidic conidiogenous cells producing phragmoconidia with 1–3 lateral appendages from the basal cell. Ellis (1971) pointed out that *T. cornigerum* and *T. pulchrum* were possibly conspecific, although their type specimens looked different. Hughes (1979), who examined the type and five other specimens, treated *T. pulchrum* as a synonym of *T. cornigerum* but did not explain or justify his decision. *Teratosperma cornigerum* has been recorded from Canada, China, USA, and UK (Ellis 1957, Hughes 1979, Wu & Zhuang 2005, Xia & al. 2016).

Teratosperma dicranopteridis R. Kirschner, *Taiwania* 64(2): 172 (2019).

COMMENTS—*Teratosperma dicranopteridis* was described on discolored living and dead leaves of *Dicranopteris linearis* in Taiwan and is characterized by annellidic conidiogenous cells that produce obclavate, 3–5-septate conidia with the basal cell bearing 1–3 lateral, 2–4-septate appendages. Secondary conidium production was not found on this species. Kirschner & al. (2019) compared this species with closely related species, *T. anacardii* and *T. singulare* based on conidial size and appendages.

Teratosperma singulare Syd. & P. Syd., *Ann. Mycol.* 2: 172 (1909).

COMMENTS—*Teratosperma singulare* is the type species of *Teratosperma* and is known on woody plants including *Fagus crenata*, *Liquidambar macrophylla*, *Quercus germana*, *Ulmus parvifolia*, and *U. macrocarpa*, usually in association with other fungi. This species has been reported from China, Japan, and Mexico (Ellis 1957, 1971, Matsushima 1975, Guo 1989, Heredia & al. 1995, Wu & Zhuang 2005, Kobayashi 2007).

Teratosperma uniappendiculatum Matsush.,
Icon. Microfung. Matsush. Lect.: 152 (1975).

COMMENTS—Matsushima (1975) described this species on dead leaves of *Osmanthus ilicifolius* and discovered the “*Verticicladiella*-like” anamorph in culture. *Teratosperma uniappendiculatum* bears some resemblance to *T. cornigerum* in conidial shape but is distinguished by its narrower conidia with fewer basal appendages. Sutton & Hodges (1977) redescribed it from bark of *Eucalyptus saligna* in Brazil. This species has been reported from Brazil, China, Japan, and USA (Matsushima 1975, Sutton & Hodges 1977, Wu & Zhuang 2005).

Rejected or dubious *Teratosperma* species

Endophragmiella macrospora (W.P. Wu) Jian Ma, X.G. Zhang & R.F. Castañeda, **comb. nov.**

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≡ *Teratosperma macrosporum* W.P. Wu, Fungal Divers. Res. Ser. 15: 326 (2005).

COMMENTS—To our knowledge, this species is known only from its type collection. Its conidial appendages arise from apical and subapical cells, not from the basal cell, rendering it nontypical in *Teratosperma*; however a similar characteristic was also found in *Endophragmiella gardeniae* Jian Ma & X.G. Zhang and *E. machili* Jian Ma & X.G. Zhang (Ma & al. 2012). In addition, the species exhibits percurrently extending conidiogenous cells and rhexolytic conidial secession. Thus, we transfer *T. macrosporum* to *Endophragmiella*, where it is easily distinguished from *E. gardeniae* and *E. machili* by its conidial size and septation.

Endophragmiella corticola P.M. Kirk, Trans. Br. Mycol. Soc. 78(1): 60 (1982).

= *Teratosperma lichenicola* D. Hawksw., Bull. Brit. Mus. (Nat. Hist.), Bot. 6(3): 262 (1979).

COMMENTS—After examining a single collection, Hughes (1952) determined this fungus as *Podoconis* sp. based on the conidial shape Hawksworth (1979), who discovered additional material, described it as a new *Teratosperma* species with close affinity to *T. anacardii*. Our examination of the description and illustration of *T. lichenicola* revealed that this fungus differed from the generic concept of *Teratosperma* in lacking conidial appendages on the basal cell. Instead, it exhibits the key characters of *Endophragmiella*: percurrently proliferating conidiogenous cells, rhexolytic conidial secession, and solitary conidia without lateral appendages. This fungus has obclavate, brown to dark brown, 2–3-septate conidia with a subhyaline or pale brown apical cell occasionally bearing a *Selenosporella*-like synanamorph, all characters found in *E. corticola*, except for the synanamorph. We consider *T. lichenicola* and *E. corticola* to be conspecific.

Teratosperma sclerotivorum (Uecker, W.A. Ayers & P.B. Adams) S. Hughes, New Zealand J. Bot. 17: 178 (1979), [as '*sclerotivora*'].

≡ *Sporidesmium sclerotivorum* Uecker, W.A. Ayers & P.B. Adams, Mycotaxon 7: 276 (1978).

COMMENTS—Uecker & al. (1978) tentatively placed this fungus in *Sporidesmium*. It is characterized by the formation of solitary, holoblastic conidia on simple or branched conidiophores, which sometimes undergo percurrent proliferation,

and by the production of a *Selenosporella*-like synanamorph. The gently tapered, phragmoseptate conidia secede rhexolytically from conidiogenous cells. Based on these features, Hughes (1979) transferred it to *Teratosperma*. However, the species lacks the distinctive conidial basal appendages and does not fully conform to what can be considered the central, hallmark characteristics by which *Teratosperma* is conceptualized, and its presence in *Teratosperma* has not been generally accepted (Bullock & al. 1989, Litkei 1989, Mischke & Adams 1996, Mischke 1998). Moreover, the rhexolytic conidial secession of this species does not conform to that of *Sporidesmium*. Wu & Zhuang (2005) redescribed *T. sclerotivorum* from fungal sclerotia and decaying leaves of unidentified plants in China, but their description does not mention a conidial appendage arising from the basal cell and differs from the description by Uecker & al. (1978) in citing longer and narrower [$55\text{--}130 \times 5\text{--}6.5 \mu\text{m}$ vs $60\text{--}92 \times 6\text{--}8 \mu\text{m}$] conidia with more [8–19 vs (5–)6(–7)] septa, and the production of a *Selenosporella*-like synanamorph on conidial apex, not on the hyphae as described by Uecker & al. (1978). Based on the difference, we believe these specimens are not conspecific and exclude the species from *Teratosperma*.

Teratosperma subulatum (Cooke & Ellis) S. Hughes,

New Zealand J. Bot. 17: 178 (1979).

≡ *Ceratophorum subulatum* Cooke & Ellis, Grevillea 17(83): 67 (1889).

≡ *Sporidesmium subulatum* (Cooke & Ellis) S. Hughes, Mycol. Pap. 36: 31 (1951).

≡ *Repetophragma subulatum* (Cooke & Ellis) Subram., Proc. Indian Natn. Sci. Acad. B 58(4): 185 (1992), [as ‘*subulata*’].

COMMENTS—This species was originally described in *Ceratophorum* Sacc., and subsequently transferred to *Sporidesmium* by Hughes (1951) based on the absence of a superficial ‘hyphopodiate’ foliicolous mycelium (Cooke 1889, Hughes 1951). After examining a second collection, Hughes (1979) recombined the species in *Teratosperma* based on the rhexolytic conidial secession, annellidic conidiogenous cells, conidial morphology, and production of a *Selenosporella*-like synanamorph. However, the absence of the distinctive lateral appendages in conidia basal cell renders this species atypical in *Teratosperma*. In addition, its sequence of septum formation in conidia differs from that found in *Endophragmiella socia* and *E. valdiviana* (Hughes 1979). Subramanian (1992), who transferred this species into *Repetophragma* based on its distinctive conidiophore proliferation and euseptate conidial septation, ignored the conidial secession, which was quite different from *Repetophragma* species. Therefore, the placement of this fungus in a suitable genus is problematic.

Key to accepted species of *Teratosperma*

1. Conidia with a single lateral appendage arising from the basal cell 2
1. Conidia with more than one lateral appendage arising from the basal cell 3
2. Conidia 17–50 × 7–9 µm, (1–)3(–4)-septate *T. appendiculatum*
2. Conidia 120–210 × 10–14 µm, 6–9-septate *T. uniappendiculatum*
3. Conidia ≤40 × 10 µm 4
3. Conidia ≥60 × 14 µm 5
4. Conidia 17–30 × 4.5–7 µm, 2–3-septate *T. anacardii*
4. Conidia 26–35 × 7.5–9 µm, 3–5-septate *T. dicranopteridis*
5. Conidia 70–200 × 14–17 µm, 4–12-septate *T. cornigerum*
5. Conidia 60–130 × 17–22 µm, 3–10-septate *T. singulare*

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Literature cited

- Bullock S, Willetts HJ, Adams PB. 1989. Morphology, histochemistry, and germination of conidia of *Sporidesmium sclerotivorum*. Canadian Journal of Botany 67: 313–317. <https://doi.org/10.1139/b89-045>
- Castañeda-Ruiz RF. 1985. Deuteromycotina de Cuba. Hyphomycetes III. Instituto de Investigaciones Fundamentales en Agricultura Tropical “Alejandro de Humboldt”, Habana, Cuba. 42 p.
- Castañeda-Ruiz RF, Kendrick B. 1990. Conidial fungi from Cuba: II. University of Waterloo Biology Series 33. 61 p.
- Cooke MC. 1889. Omitted diagnoses. Grevillea 17(83): 65–69.
- Ellis MB. 1957. Some species of *Teratosperma*. Mycological Papers 69. 7 p.
- Ellis MB. 1958. *Clasterosporium* and some allied Dematiaceae-Phragmosporae. I. Mycological Papers 70. 89 p.
- Ellis MB. 1971. Dematiaceous hyphomycetes. Commonwealth Mycological Institute, Kew, Surrey, England. 608 p.
- Guo YL. 1989. Follicolous hyphomycetes of Shennongjia, Hubei Province. In Mycological and Lichenological Expedition to Shennongjia, Academia Sinica. Fungi and lichens of Shennongjia. World Publishing Corp, Beijing, China. 341–385 p.
- Hansford CG. 1943. Contribution towards the fungus flora of Uganda. V. Fungi Imperfecti. Proceedings Linnean Society London 155: 34–67. <https://doi.org/10.1111/j.1095-8312.1943.tb00340.x>
- Hawksworth DL. 1979. The lichenicolous hyphomycetes. Bulletin of the British Museum (Natural History), Botany Series 6(3): 183–300.
- Heredia G, Mercado-Sierra A, Mena-Portales J. 1995. Conidial fungi from leaf litter in a mesophilic cloud forest of Veracruz, Mexico. Mycotaxon 55: 473–490.

- Hughes SJ. 1951. Studies on micro-fungi. III. *Mastigosporium*, *Camposporium*, and *Ceratosporium*. Mycological Papers 36. 43 p.
- Hughes SJ. 1952. Fungi from the Gold Coast. I. Mycological Papers 48. 91 p.
- Hughes SJ. 1971. Percurrent proliferation in fungi, algae, and mosses. Canadian Journal of Botany 49: 215–231. <https://doi.org/10.1139/b71-037>
- Hughes SJ. 1979. Relocation of species of *Endophragmia* auct. with notes on relevant generic names. New Zealand Journal of Botany 17: 139–188. <https://doi.org/10.1080/0028825X.1979.10426887>
- Kirk PM. 1982. New or interesting microfungi IV. Dematiaceous hyphomycetes from Devon. Transactions of the British Mycological Society 78(1): 55–74. [https://doi.org/10.1016/s0007-1536\(82\)80077-6](https://doi.org/10.1016/s0007-1536(82)80077-6)
- Kirk PM. 1985. New or interesting microfungi XIV. Dematiaceous hyphomycetes from Mt Kenya. Mycotaxon 23: 305–352.
- Kirschner R, Lee PH, Huang YM. 2019. Diversity of fungi on Taiwanese fern plants: review and new discoveries. Taiwanania 64(2): 163–175.
- Kobayashi T. 2007. Index of fungi inhabiting woody plants in Japan: Host, distribution and literature. Zenkoku-Noson-Kyoiku Kyoikai Publishing.
- Litkei J. 1989. Characteristics of isolates of *Sporidesmium sclerotivorum* Uecker, Ayers and Adams in Hungary. Acta phytopathologica et entomologica hungarica 24: 311–315.
- Ma J, Zhang YD, Ma LG, Castañeda-Ruiz RF, Zhang XG. 2012. Two new species of *Endophragmiella* from southern China. Mycotaxon 119: 103–107. <https://doi.org/10.5248/119.103>
- Matsushima T. 1971. Microfungi of the Solomon Islands and Papua-New Guinea. Published by the author, Kobe, Japan.
- Matsushima T. 1975. Icones microfungorum a Matsushima lectorum. Published by the author, Kobe, Japan.
- Matsushima T. 1980. Matsushima Mycological Memoirs 1. Published by the author, Kobe, Japan.
- Mischke S. 1998. Mycoparasitism of selected sclerotia-forming fungi by *Sporidesmium sclerotivorum*. Canadian Journal of Botany 76: 460–466. <https://doi.org/10.1139/cjb-76-3-460>
- Mischke S, Adams PB. 1996. Temporal and spatial factors affecting germination of macroconidia of *Sporidesmium sclerotivorum*. Mycologia 88: 271–277.
- Subramanian CV. 1992. A reassessment of *Sporidesmium* (hyphomycetes) and some related taxa. Proceeding of the Indian National Science Academy, B 58(4): 179–190.
- Sutton BC. 1973. Hyphomycetes from Manitoba and Saskatchewan, Canada. Mycological Papers 132. 143 p.
- Sutton BC, Hodges CS Jr. 1977. Eucalyptus microfungi. Miscellaneous hyphomycetes. Nova Hedwigia 28: 487–498.
- Sydow H, Sydow P. 1909. Micromycetes japonici. Annales Mycologici 7(2): 168–175.
- Uecker FA, Ayers WA, Adams PB. 1978. A new hyphomycete on sclerotia of *Sclerotinia sclerotiorum*. Mycotaxon 7: 275–282.
- Uecker FA, Ayers WA, Adams PB. 1980. *Teratosperma oligocladum*, a new hyphomycetous mycoparasite on sclerotia of *Sclerotinia sclerotiorum*, *S. trifoliorum*, and *S. minor*. Mycotaxon 10: 421–427.
- Wu WP, Zhuang WY. 2005. *Sporidesmium*, *Endophragmiella* and related genera from China. Fungal Diversity Research Series 15. 351 p.
- Xia JW, Ma YR, Gao JM, Zhang XG, Li Z. 2016. A new species of *Blastophragma* and three new records of other dematiaceous hyphomycetes from southern China. Nova Hedwigia 102(1): 223–232. https://doi.org/10.1127/nova_hedwigia/2015/0301
- Zhang K, Qiao M, Yu ZF, Li DW, Castaneda-Ruiz RF. 2019. *Morganjonesia* gen. nov. for two atypical *Corynespora* and *Teratosperma* species. Mycotaxon 134: 457–461. <https://doi.org/10.5248/134.457>